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PUBLICATIONS REVIEWED

A STUDY OF THE STRUCTURE OF FEATHERS, WITH REFERENCE TO THEIR TAXONOMIC SIGNIFICANCE. By ASA C. CHANDLER. [University of California Publications in Zoology, vol. 13, no. 11, April 17, 1916, pp. 243-446, pls. 13-37, 7 text figs.]

Except for a few preliminary pages, the work is divided into two portions. Part I, pp. 255-279, is devoted to the "General Morphology" of the feather, a large portion of which has been compiled from the literature, or at least may be found there whether seen by Chandler or not. Though there are some references to the literature, and a bibliography appears at the end of the paper, little discrimination is shown as to what is original and what has been taken from other writers. Furthermore, it is my opinion that not all of the papers which should have been examined were read carefully if seen at all. In certain cases where credit is given, general text or reference books are sometimes quoted instead of the original literature.

On page 248, Chandler announces a new word, "epiphyiology", as a general term for the "study of outgrowths". I cannot see any need for this rather long and awkward word. It and such modifications as "epiphyologic" and "epiphyiological" occur here and there in the paper. In every case where I have made the attempt, the words feather, plumage, or plumage characters can be substituted with no loss in smoothness or explicitness that I can discover.

The following generalization appears on p. 279, in italics: "*The constitutional factor causing the morphologic specialization of feather structures for the production of color is inseparably bound together with the factor for the accompanying pigment, and if the latter is absent, the feather structures present the normal type of the species in which there are no color modifications.*" Barbules from the "violet speculum" of an albino mallard were examined by Chandler and furnished the basis for the conclusion thus reached. My experience has been otherwise in a number of cases. One of these I have found in the neck feathers of white domestic pigeons where pigmented varieties have iridescence. The highly modified form of the barbules in this iridescent region which was described by me in 1903 is also present in white feathers from the same region.

Part II is the taxonomic portion with a

large amount of detailed description of feathers from various birds. There are 25 plates which show many feather structures, mostly barbules from a number of species of birds.

For some fifteen years I have believed that plumage characters might be useful in taxonomy, and I have some unfinished work of my own along this line. As stated by Chandler, there are precedents for attempting to classify various groups of organisms on the basis of one set of characters. In birds, at least, however, it appears to me unsound to attempt a phylogenetic classification of the great divisions, i. e., the orders and families, with only one set of characters such as variations in feather structure and distribution. Instead of using a single set of such very special characters in this detached way, it would be sounder, in my judgment, to compare all known characters, including feather characters when these are adequately understood.

It must be granted that Chandler recognizes the need of using all characters, as is indicated in the last sentence of his paper and elsewhere; nevertheless he has fashioned a phylogenetic system on feather characters only, so far as his comparisons go. This is described as a modification of the system given by Knowlton and Ridgway (1909). I can find no evidence in the paper that any characters except those of the plumage have been used directly by Chandler in elaborating his phylogenetic conclusions.

As a result of his feather studies, Chandler concludes that the ratite birds are "primitively rather than secondarily flightless birds" (p. 388). There is no reference to the contrary evidence furnished by the wing and shoulder-girdle bones, for instance; and I am not convinced by his arguments that the feather structures themselves support his position. The Crypturiformes are placed in association with the Galliformes with excellent arguments from their feather characters. There are also other arguments for this arrangement, and I would use them all.

It has unfortunately been impracticable for me to verify the accuracy of the many figures appearing in the plates. So far as I can tell from memory of these structures, however, they are well done. It is my judgment that the descriptive material in this paper, which represents the author's own studies, is a useful contribution to

knowledge. Furthermore, the taxonomic ideas presented should be considered by workers in bird phylogeny.—R. M. STRONG.

MINUTES OF COOPER CLUB MEETINGS

NORTHERN DIVISION

JUNE.—The regular monthly meeting of the Northern Division was held at the Museum of Vertebrate Zoology on June 22, 1916, at 8 p. m., with the following members present: Messrs. Davis, Evermann, Grinnell, Hansen, Lastreto, Martin, Morley, Ohl, Squires, Storer, Swarth, Trenor, Webb, Wright; Mesdames Allen, Ferguson, Grinnell, Klügel, Newhall; and Misses Alexander, Atterbury, Kellogg, Sweezy. As visitors: Mesdames Field, Meade, Morley, Parsons, Swarth; and Misses Ferguson, Harbour, and Dr. Risdon.

The minutes of the May meeting were read and approved, and the minutes of the Southern Division were read. The names proposed at the May meeting of the Northern Division and at the April meeting of the Southern Division were voted upon favorably and the persons were elected to membership. Mrs. Marion Randall Parsons, Mosswood Road, Berkeley, was proposed for membership by Mrs. J. T. Allen.

Mr. Grinnell then gave a most interesting account of his eastern trip, including bird-censuses from the train and in different localities, visits to the important museums, and impressions of the personality and work of leading ornithologists whom he met.

The Club then adjourned for informal discussion and comparison of personal observations.—AMELIA S. ALLEN, *Secretary*.

SOUTHERN DIVISION

JUNE.—Meeting of the Southern Division was held June 29, 1916, at the Museum of History, Science and Art, Los Angeles. In absence of Pres. Miller, Vice-Pres. Law occupied the chair. Members present were: Messrs. Howell, Barker, Brouse, Bryant, Dickey, Daggett, Wood, Rich, Lane, Law, Robertson, Smith, Chambers, Brown, Lamb and Wyman; Mrs. Law and Mrs. Husher. Visitors were Mrs. Wood, Miss Marsh and Dr. Mortimer Jeserun.

Minutes of the previous meeting were read and approved, followed by reading of the minutes of the Northern Division. New names presented, to be voted on at the

July meeting, together with other names already presented in the Northern Division, were as follows: Dr. Casey A. Wood, Chicago Sav. Bk. Bldg., Chicago, by W. M. Pierce; Mrs. R. Bruce Horsfall, 1457 E. 18th St., Portland, Ore., by S. G. Jewett; Ralph T. Kellogg, Silver City, Grant Co., N. M., by W. Lee Chambers; Arthur H. Howell, 2919 S. Dakota Ave., Washington, D. C., by W. Lee Chambers; J. J. Schaefer, R. F. D. No. 1, Port Byron, Ill., by W. Lee Chambers; W. A. Kuykendall, Eugene, Lane Co., Ore., by Alfred C. Shelton; Myron Harmon Swenk, 3028 Starr St., Lincoln, Nebr., by W. Lee Chambers.

There being no other business matters for consideration, the members listened to a most interesting informal talk by Dr. Jeserun, who, in the '70's, spent two years collecting on the headwaters of the Amazon. Mr. H. C. Bryant then spoke on the work of the State Fish and Game Commission, detailing in a gratifying way the attitude of the Commission toward scientific collecting and collectors, and the progress of the educational campaign that he has conducted through the medium of the newspapers. Adjourned.—L. E. WYMAN, *Secretary*.

JULY.—The monthly meeting of the Southern Division, Cooper Ornithological Club, was held at the Museum of History, Science and Art, July 27, 1916. Vice-President Law officiated, with Mr. Robertson as acting Secretary. Members present were Messrs. Daggett, Law, Robertson, Little, Brouse, Nokes, Holland, Wyman. Mrs. Robertson was a visitor.

Minutes of the June meeting were read and approved, followed by reading of July minutes of the Northern Division. On motion by Mr. Daggett, seconded by Mr. Nokes, the Secretary was instructed to cast an electing ballot for all names proposed at the last meeting. The name of Dr. Mortimer Jeserun, 430 West Washington St., Los Angeles, was presented by L. E. Wyman for membership.

Mr. Daggett made the interesting announcement that he had recently observed a Scissor-tailed Flycatcher on a busy corner in the residence district of Los Angeles. Business disposed of, the members present enjoyed an hour of general discussion and inspection of the study skins of birds, which are now a regular feature of these meetings, and which on this occasion consisted of Gulls and Jaegers. Adjourned.—L. E. WYMAN, *Secretary*.